

THREE NEW SPECIES OF THE GENUS *ULOMA* DEJEAN, 1821 FROM WUYI MOUNTAIN IN CHINA WITH A NEW RECORD (COLEOPTERA, TENEBRIONIDAE, ULOMINI)

LIU Shan-Shan¹, REN Guo-Dong^{1*}, WANG Jia-She²

1. College of Life Sciences, Hebei University, Baoding 071002, China

2. Wuyishan National Nature Reserve, Wuyishan 354300, China

Abstract Three new species of *Uloma* Dejean, *U. reticulata* sp. nov., *U. intricorniculata* sp. nov. are described, a known Japanese species *U. minuta* sp. nov., *U. kondoi* Nakane, 1968 is recorded from Wuyi Mountain in Fujian Province of China for the first time. All type specimens are preserved in the Museum of Hebei University.

Key words Coleoptera, Tenebrionidae, *Uloma*, new species, new record species, China.

The tribe Ulomini is one of the important groups of economic significance belonging to the tenebrionid beetles, and *Uloma* is a core genus of this tribe. Up to the present, about 200 species of the genus are recorded in the world. In this paper, we describe three new species and report a new record species of the genus from Mt. Wuyi in Fujian of China. All specimens are deposited in the Museum of Hebei University.

1 *Uloma reticulata* sp. nov. (Figs 1–11, 42–43)

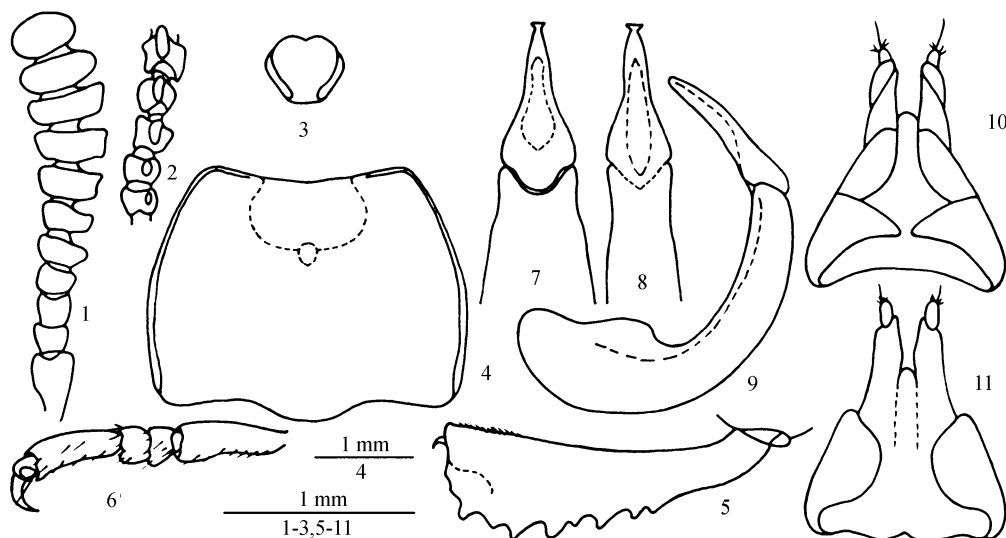
Male. Body medium in size, oblong and arched, relatively strongly shining; blackish brown, antennae, mouthparts and legs reddish brown. Head transversely oval, distinctly grooved in Y-shape, and with reticulate microsculptures; labrum transversely trapeziform, densely and finely punctate, produced at front border; clypeus sublinearly truncate in anterior border, elevated with 2 obtuse ridges at apex, and large punctate; front clypeal groove distinct; anterior genae elevated, with fine punctures, sides slightly extended, posterior genae reduced; eyes relatively transverse, with 3–4 facets at narrowest point in lateral view; frons narrowly grooved between eyes, sparsely and large punctate; mentum subhexagonal, with cordate elevation in middle and a long groove at each side, cordate elevation with clear fine stripes; ligula slightly water caltrop-like, excavated in middle with sparse and long hair; maxillary palpus with subsecuriform terminal segment. Antennae reaching basal half of pronotum; 2nd subquadrate; 3rd longer than its width and 4th wider than its length; 5th to 10th segments gradually widened; 5th to 9th sublinearly truncate at each inner side, then longitudinally grooved in one or several times, respectively; 10th about twice as broad as long; terminal segment transversely oval; relative length (width) of each segment from 2nd to 11th: 6.0 (6.0), 7.0 (6.0), 5.0 (7.0), 5.0 (10.0), 5.0 (10.0), 6.0

(12.0), 6.0 (14.0), 5.0 (15.0), 6.0 (15.0), 9.0 (13.0). Pronotum relatively transverse, about 1.33 times as broad as long, broadest at middle, with reticulate microsculptures; front border deeply emarginate, with narrow margin, which is interrupted in middle; sides arcuate, broadly margined, strongly narrowed forward and gently to rear from the widest point; basal border bisinuate; front angles slightly obtuse, hind angles obtuse; antero-medial excavation broad, covered with homogeneous and sparse punctures, and lying a shallow groove at the middle of posterior border; disc sparsely punctate, the punctures becoming gradually closer toward both sides. Scutellum subpentagonal, sparsely and finely punctate. Elytra distinctly punctate-striate, the punctures in striae large, intervals nearly flat, sparsely and finely punctate with several transverse wrinkles, lateral margins visible only at humeri in dorsal view. Propleuron longitudinally wrinkled with coarse punctures. Prosternum coarsely punctate, prosternal process finely punctate and smoothly descendant at apex. Protibia slightly widened to apex, inner border sublinearly truncate, weakly emarginate at base, with a row of sparse and short hair, protibia slightly produced to inner apex; outer border bearing about 8 or 9 irregularly sharp or round teeth; dorsal surface irregularly punctate; ventral surface with a row of 4 or 5 small teeth. Mesotibia coarse, dentate at outer border. Metatibia smooth at outer border; relative length of 1st to 4th segment of metatarsus from base to apex: 20.0, 5.0, 5.0, 19.0, basal segment almost equal to terminal segment in length. Aedeagus slender in dorsal view, sparsely and finely punctate, longitudinally grooved in ventral view and extremely curved in lateral view, semicircular; parameres distinctly expanded at apex and abruptly constricted behind it, and gradually widened

The research was supported by the National Natural Science Foundation of China (30570209).

* Corresponding author; E-mail: gdrn@mail.hbu.edu.cn

Received 11 June 2006, accepted 28 Oct. 2006.



Figs 1-11. *Uloma reticulata* sp. nov. 1. Antenna. 2. 5th to 9th segments of antennae. 3. Mentum. 4. Pronotum. 5. Protibia. 6. Metatarsus. 7. Apical aedeagus in dorsal view. 8. Apical aedeagus in ventral view. 9. Aedeagus in lateral view. 10. ♀ Stylus in dorsal view. 11. ♀ Stylus in ventral view.

to base, with a shallow long groove in median portion.

Female. Mentum subcordate, sublinearly truncate at base, elevated in middle with coarse punctures, and deeply grooved at both sides; antennae not armed; pronotum without excavation; genital armatures of ovipositor bearing a long sensorial hair respectively and some short hair at base, sparsely punctate in dorsal view.

Body length 7.5–8.0 mm, width 3.0–3.5 mm.

Holotype ♂, Mt. Wuyi (27°33' N, 117°27' E; alt. 1500 m), Guadun, Fujian Province, 23 May 2004, collected by YUAN Cai Xia and LI Jing. Paratypes 3 ♂♂, 4 ♀♀, same data as holotype; 1 ♂, Mt. Wuyi (27°35' N, 117°37' E; alt. 1000 m), Moshi Keng, Fujian Province, 20 May 2004, collected by YUAN Cai Xia and LI Jing.

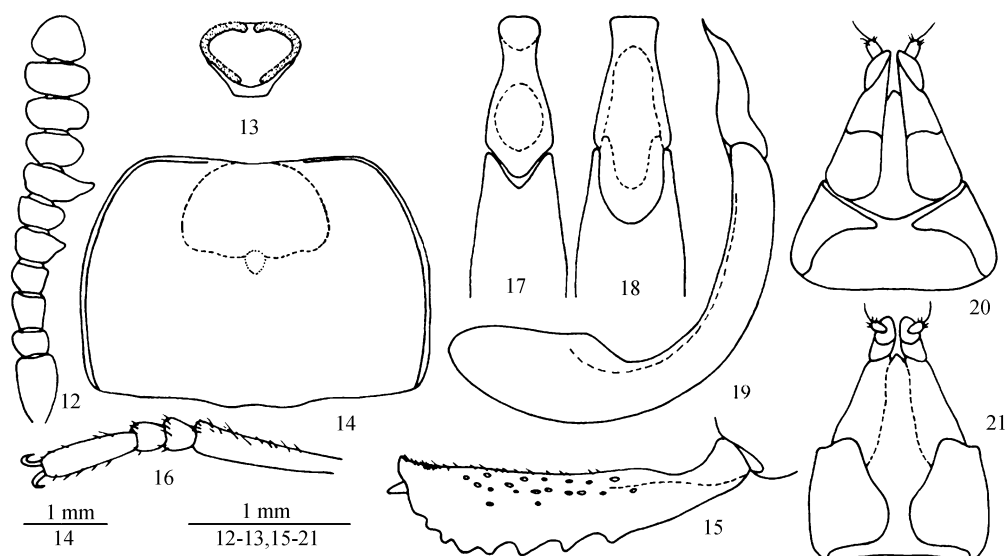
Diagnosis. The new species can be distinguished from *U. fukiensis* Kaszab, 1954 by the following characters: frons narrowly grooved between eyes; 3rd segment of antennae longer than its width; 5th to 9th sublinearly truncate at each inner side and then furnished with one or several long grooves respectively; protibia with irregularly sharp or slightly round teeth; parameres sublinearly truncate and expanded at apex, with a shallow slender groove in dorsum.

Etymology. The specific name is derived from the Latin word “*reticulatus*” (reticulate), and with combination of the feminine suffix “-a”, which refers to the head and pronotum with reticulate microsculptures.

2 *Uloma intricornicula* sp. nov. (Figs. 12–21, 44–45)

Male. Body medium in size, oblong, relatively strongly shining; blackish brown, antennae, mouthparts and legs slightly reddish. Head subhexagonal, distinctly grooved in U-shape; labrum transversely oblong; clypeus weakly emarginate in anterior border, evidently elevated

with 2 obtuse ridges at apex; front clypeal groove distinct, large punctate; anterior genae elevated with sparse punctures, sides slightly arcuate, posterior genae reduced; eyes relatively transverse, with 3–4 facets at narrowest point in lateral view; frons feebly elevated between eyes, sparsely and large punctate; mentum cordate, depressed in middle, scarcely punctate, with a pair of hairy ring in semicircular shape at outer sides, strongly converged from middle to base laterally; ligula water caltrop-like, depressed in middle with sparse and long hair; maxillary palpus with subsecuriform terminal segment. Antennae reaching basal half of pronotum; 2nd short and subquadrate; 3rd longer than 4th; 5th to 10th segments gradually widened; 5th prominent to inner border or not; 7th obviously sharply prominent to inner border; 8th to 10th distinctly transverse; 10th about twice as broad as long; terminal segment semicircular; relative length (width) of each segment from 2nd to 11th: 6.0 (8.0), 9.0 (8.0), 6.0 (8.0), 7.0 (11.0), 6.0 (11.0), 7.0 (17.0), 7.0 (13.0), 7.0 (14.0), 7.0 (15.0), 10.0 (13.0). Pronotum relatively transverse, about 1.43 times as broad as long, broadest at basal 2/3; front border emarginate, with narrow margin, which is interrupted in middle; sides arcuate, narrowly margined, extremely narrowed forward and gently to rear from the widest point; basal border weakly bisinuate; front angles near rectangular, hind angles obtuse; antero-median excavation deep, covered with coarse punctures, and lying a longitudinal and shallow groove at the middle of posterior border; disc sparsely punctate, the punctures becoming gradually closer and smaller toward both sides. Scutellum subpentagonal, sparsely punctate. Elytra distinctly punctate striate, the punctures in striae large, intervals nearly flat, homogeneously and finely punctate



Figs 12-21. *Uloma intricimacula* sp. nov. 12. Antenna. 13. Mentum. 14. Pronotum. 15. Protibia. 16. Metatarsus. 17. Apical aedeagus in dorsal view. 18. Apical aedeagus in ventral view. 19. Aedeagus in lateral view. 20. ♀ Stylus in dorsal view. 21. ♀ Stylus in ventral view.

with several transverse wrinkles, lateral margins visible only at humeri in dorsal view. Propleuron longitudinally wrinkled with coarse punctures. Prosternum coarse, relatively densely punctate, without hair, prosternal process smoothly descendant at apex. Protibia relatively narrow, slightly widened to apex, inner border sublinearly truncate, deeply emarginate at base, with a row of short hair, protibia slightly produced to inner apex with dense hair; outer border bearing 7 or 8 obtuse teeth; dorsal surface irregularly punctate; ventral surface with a row of 4 or 5 small teeth. Mesotibia coarse, dentate at outer border. Metatibia smooth at outer border; relative length of 1st to 4th segment of metatarsus from base to apex: 35.0, 7.0, 7.0, 23.0, basal segment obviously longer than terminal segment. Aedeagus linearly truncate at apex in dorsal view, broadly and longitudinally grooved in ventral view, spiculate at apex and curved in lateral view; parameres with a semicircular depression, shallowly grooved in middle, and emarginate at both sides.

Female. Mentum subhexagonal, with cordate elevation in middle, irregularly and coarsely punctate, and narrowly grooved at both sides; pronotum without excavation; protibia inevidently produced to inner apex; genital armatures of ovipositor bearing a long sensorial hair respectively and several short hair at base, sparsely and finely punctate in dorsal view.

Body length 9.0-10.0 mm, width 3.5-4.0 mm.

Holotype ♂, Mt. Wuyi (27°33' N, 117°27' E; alt. 1500 m), Guadun, Fujian Province, 23 May 2004, collected by YUAN Cair Xia and LI Jing. Paratypes 2♀, same data as holotype; 1 ♂, 1♀, Mt. Wuyi (27°35' N, 117°37' E; alt. 1000 m), Taoyuan, Fujian Province, 25 May 2004, collected by YUAN Cair

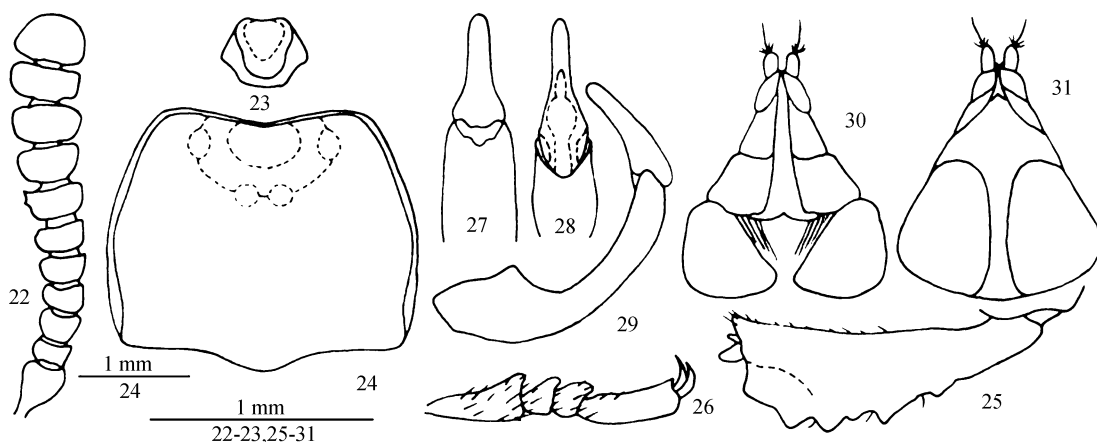
Xia and LI Jing; 1 ♂, Mt. Meihua (25°43' N, 116°41' E; alt. 900 m), Shanghang, Fujian Province, 30 June 2004, collected by YUAN Cair Xia and LI Jing.

Diagnosis. The new species can be distinguished from *U. takagi* Masumoto et Nisiikawa, 1986 by the following characters: body small; mentum strongly narrowed from middle to base; protibia sublinearly truncate; 11th segment of antennae semicircular; pronotum of female without excavation.

Etymology. The specific name is derived from the Latin word “*intra*” (inner) and “*orniculum*” (corner), and with combination of the feminine suffix “-a”, which refers to 7th segment or 5th and 7th segments of antennae prominent to inner border.

3 *Uloma minuta* sp. nov. (Figs 22-31, 46-47)

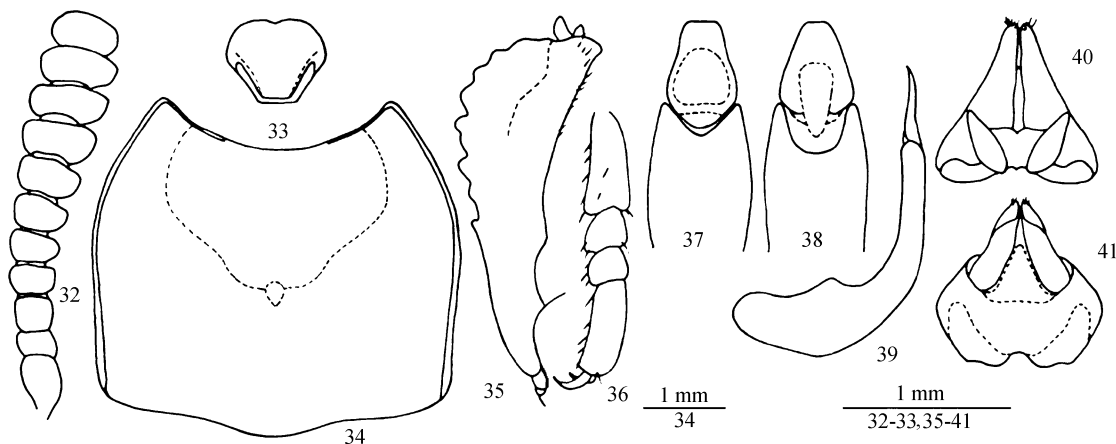
Male. Body small, oblong, relatively strongly shining; darkish red-brown, antennae, mouthparts and legs lighter in color. Head transverse, distinctly grooved in Y-shape; labrum transversely rectangular, with small punctures, produced at front border; clypeus almost linearly truncate in anterior border, feebly elevated at apex, rather coarse; front clypeal groove distinct; anterior genae elevated with sparse punctures, sides slightly extended, posterior genae reduced; eyes relatively transverse, with 2 facets at narrowest point in lateral view; frons narrowly and longitudinally grooved between eyes, coarsely and differently punctate in size; mentum subhexagonal, feebly emarginate at anterior border, with cordate elevation in middle and a broad groove at each side, cordate elevation with coarse punctures and a longitudinal depression; ligula subtriangular, excavated in middle with sparse and long hair, deeply emarginate at anterior border; maxillary



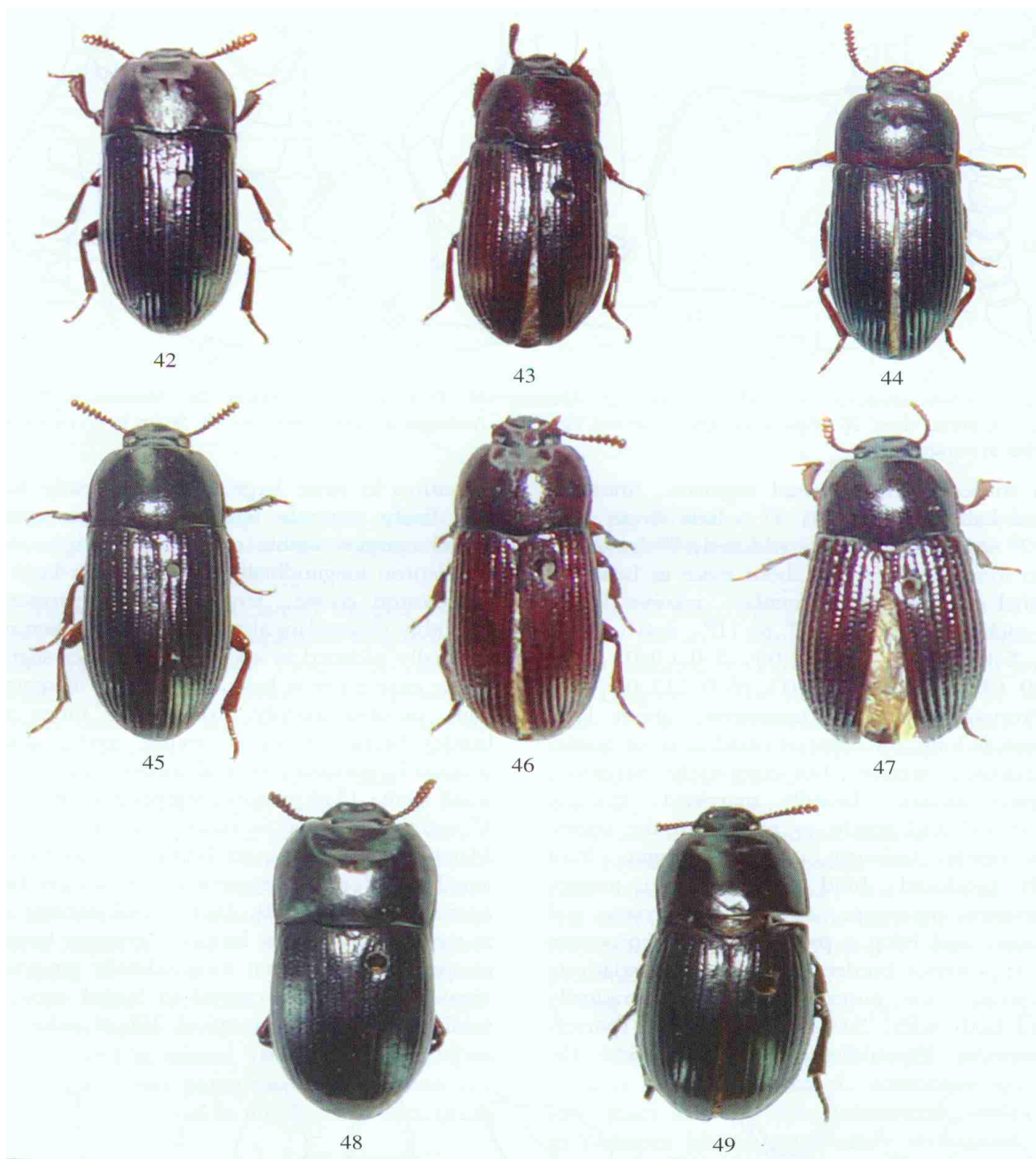
Figs 22-31. *Uloma minuta* sp. nov. 22. Antenna. 23. Mentum. 24. Pronotum. 25. Protibia. 26. Metatarsus. 27. Apical aedeagus in dorsal view. 28. Apical aedeagus in ventral view. 29. Aedeagus in lateral view. 30. ♀ Stylus in dorsal view. 31. ♀ Stylus in ventral view.

palpus with subsecuriform terminal segment. Antennae reaching basal half of pronotum; 3rd a little longer than 4th; 5th to 10th segments gradually widened; 7th inevitably prominent to inner border; 10th about twice as broad as long; terminal segment semicircular; relative length (width) of each segment from 2nd to 11th: 4.0 (6.0), 5.0 (7.0), 5.0 (7.0), 4.0 (8.0), 5.0 (9.0), 5.0 (10.0), 6.0 (11.0), 6.0 (12.0), 6.0 (13.0), 8.0 (12.0). Pronotum relatively transverse, about 1.26 times as broad as long, broadest at middle; front border deeply emarginate, narrowly but completely margined; sides extremely arcuate, broadly margined, strongly narrowed forward and gently to rear from the widest point; basal border bisinuate, without margin; front angles feebly produced, hind angles obtuse; antero-median excavation transverse, covered with coarse and large punctures, and lying a pair of indistinct processes respectively in posterior border and sides; disc relatively sparsely punctate, the punctures becoming gradually closer toward both sides. Scutellum triangular, sparsely and finely punctate. Elytra distinctly punctato-striate, the

punctures in striae large, intervals nearly flat, sparsely and finely punctate with several transverse wrinkles, lateral margins visible only at humeri in dorsal view. Propleuron longitudinally wrinkled with large punctures. Prosternum coarse, large punctate, prosternal process smoothly descendant at apex with fine punctures. Protibia gradually widened to apex, inner border slightly curved, feebly emarginate at base, with a row of sparse and short hair, protibia sharply produced to inner apex; outer border bearing 6 or 7 round teeth; dorsal surface irregularly punctate; ventral surface with a row of 5 or 6 small teeth; 1st of protarsal segments longer than 2nd, 3rd, 4th segment. Mesotibia coarse, dentate at outer border. Metatibia smooth at outer border, without tooth; relative length of 1st to 4th segment of metatarsus from base to apex: 17.0, 5.0, 5.0, 18.0, basal segment almost equal to terminal segment in length. Aedeagus linearly truncate at apex in dorsal view, longitudinally grooved in ventral view and extremely curved in lateral view; parameres sublinearly truncate at apical 2/3 of sides, and dorsal surface feebly elevated.



Figs 32-41. *Uloma kondoi* Nakane, 1968. 32. Antenna. 33. Mentum. 34. Pronotum. 35. Protibia. 36. Metatarsus. 37. Apical aedeagus in dorsal view. 38. Apical aedeagus in ventral view. 39. Aedeagus in lateral view. 40. ♀ Stylus in dorsal view. 41. ♀ Stylus in ventral view.



Figs. 42-49. Three new species and one new record species of the genus *Ulona* Dejean, 1821. 42-43. *U. reticulata* sp. nov. ♂, ♀. 44-45. *U. intricatula* sp. nov. ♂, ♀. 46-47. *U. minuta* sp. nov. ♂, ♀. 48-49. *U. kondoi* Nakane, 1968 ♂, ♀.

Female. Mentum subcordate, flat, with a short groove at each side; pronotum without excavation; genital armatures of ovipositor bearing a long sensorial hair respectively and some short hair at base.

Body length 7.5-8.0 mm; width 2.5-3.0 mm.

Holotype ♂, Mt. Wuyi (27°33' N, 117°27' E; alt. 1 500 m), Guadun, Fujian Province, 23 May 2004, collected by YUAN Cair Xia and LI Jing. Paratypes 1 ♀, Mt. Wuyi (27°33' N, 117°27' E; alt. 1 500 m), Fujian

Province, 5 July 2003, collected by BAI Ming.

Diagnosis. The new species can be distinguished from *U. ishigakiensis* Chûjō, 1983 by the following characters: 7th segment of antennae inevitably prominent to inner border; pronotum without margin at basal border; scutellum triangular; 1st of protarsal segment longer than other segment; parameres not shrunk near apex, subparallel.

Etymology. The specific name is derived from the

Latin word “*minutus*” (small), and with combination of the feminine suffix “-a”, which refers to the body small and slender.

4 *Uloma kondoi* Nakane, 1968 New record to China (Figs 32-41, 48-49)

Nakane, 1968: 77; Masumoto *et* Nisiikawa, 1986: 28, figs. 39-43.

Material examined. 2 ♂♂, 1 ♀, Mt. Wuyi (27°35' N, 117°37' E; alt. 2 158 m), Mt. Huanggang, Fujian Province, 21 May 2004, collected by YUAN Cai-Xia and LI Jing.

Distribution. China (Fujian); Japan.

Acknowledgements The authors wish to express their thanks to YUAN Cai-Xia and LI Jing for providing specimens collected in Mt. Wuyi.

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武夷山齿甲属三新种及一新纪录种 (鞘翅目, 拟步甲科, 齿甲族)

刘杉杉¹ 任国栋¹ 汪家社²

1. 河北大学生命科学学院 保定 071002

2. 武夷山国家级自然保护区管理处 武夷山 354300

摘要 记述中国福建武夷山齿甲属 *Uloma* Dejean 3 新种和 1 新纪录种, 模式标本保存于河北大学博物馆。

1 网纹齿甲, 新种 *Uloma reticulata* sp. nov. (图 1~11, 42~43)

正模 ♂, 福建武夷山挂墩, 2004-05-23, 苑彩霞, 李静采。副模 3 ♂♂, 4 ♀♀, 记录同正模; 1 ♂, 福建武夷山模式坑, 2004-05-20, 苑彩霞, 李静采。

新种与福建齿甲 *U. fukiensis* Kaszab, 1954 相似, 但可由下列特征与之区别: 额在两眼之间的部分窄凹; 触角第 3 节长大于宽; 第 5~9 节内侧平直并有 1 条或多条纵沟; 前足胫节外侧有不规则的尖齿或圆齿; 雄性阳基侧突端部近平直且扩展, 背面 1 浅长凹。

词源: 种名由拉丁词 *reticulatus* (网状的) 变化词尾而来, 意指该虫的头和前胸背板具有细的网状纹。

2 歪角齿甲, 新种 *Uloma intricornicula* sp. nov. (图 12~21, 44~45)

正模 ♂, 福建武夷山挂墩, 2004-05-23, 苑彩霞, 李静采。副模 2 ♀♀, 记录同正模; 1 ♂, 1 ♀, 福建武夷山桃源峪, 2004-05-25, 苑彩霞, 李静采; 1 ♂, 福建梅花山上杭, 2004-06-30, 苑彩霞, 李静采。

新种与台湾的卵凹齿甲 *U. takagii* Masumoto *et* Nisiikawa,

1986 相似, 但可由下列特征与之区别: 体小型; 额由中部向基部强烈收缩; 前足胫节近于平直; 触角端节半球形; 雌性前胸背板无凹。

词源: 种名由拉丁词 *intra* (内侧的) + 拉丁词 *corniculum* (小角状) 变化词尾组合而成, 意指该虫的触角第 7 节或第 5、7 节向内侧歪突。

3 小齿甲, 新种 *Uloma minuta* sp. nov. (图 22~31, 46~47)

正模 ♂, 福建武夷山挂墩, 2004-05-23, 苑彩霞, 李静采; 副模 1 ♀, 福建武夷山, 2003-07-05, 白明采。

新种与日本的石垣齿甲 *U. ishigakiensis* Chûjô, 1983 相似, 但可由下列特征与之区别: 触角第 7 节内侧端部有 1 不明显的小突起; 前胸背板后缘中间无饰边; 小盾片三角形; 前足第 1 跗节长于其他各节; 雄性阳基侧突近端部处不缢缩, 近于平行。

词源: 种名由拉丁词 *minutus* (极小的) 变化词尾而来, 意指该虫的身体小型。

4 钝突齿甲 *Uloma kondoi* Nakane, 1986 中国新纪录 (图 32~41, 48~49)

检视标本: 2 ♂♂, 1 ♀, 福建武夷山黄岗山, 2004-05-21, 苑彩霞, 李静采。

分布: 中国 (福建); 日本。

关键词 鞘翅目, 拟步甲科, 齿甲属, 新种, 新纪录种, 中国. 中图分类号 Q969.498.2